

SSSSSSSSSSSSS YYY YYY SSSSSSSSSSSS LLL 000000000 AAAAAAAA  
SSSSSSSSSSSSS YYY YYY SSSSSSSSSSSS LLL 000000000 AAAAAAAA  
SSSSSSSSSSSSS YYY YYY SSSSSSSSSSSS LLL 000000000 AAAAAAAA  
  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
SSS YYY YYY SSS LLL 000 000 AAA AAA  
  
SSSSSSSSSS YYY SSSSSSSSS LLL 000 000 AAA AAA  
SSSSSSSSSS YYY SSSSSSSSS LLL 000 000 AAA AAA  
SSSSSSSSSS YYY SSSSSSSSS LLL 000 000 AAA AAA  
  
SSS YYY SSS LLL 000 000 AAA AAA  
SSS YYY SSS LLL 000 000 AAA AAA  
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SSS YYY SSS LLL 000 000 AAA AAA  
SSS YYY SSS LLL 000 000 AAA AAA  
SSS YYY SSS LLL 000 000 AAA AAA  
SSS YYY SSS LLL 000 000 AAA AAA  
  
SSSSSSSSSSSS YYY SSSSSSSSSSS LLLL 000000000 AAA AAA  
SSSSSSSSSSSS YYY SSSSSSSSSSS LLLL 000000000 AAA AAA  
SSSSSSSSSSSS YYY SSSSSSSSSSS LLLL 000000000 AAA AAA

\*\*FILE\*\*ID\*\*LIOSUB780

K 2

The diagram illustrates a 2D convolution operation with the following parameters:

- Input:** A 5x5 input grid of 'I' symbols.
- Kernel:** A 3x3 kernel grid of 'I' symbols, centered on the input.
- Stride:** 2
- Padding:** 1
- Output:** A 3x3 output grid of 'S' symbols.

The resulting output values are as follows:

Row	Column 1	Column 2	Column 3
1	S		
2		S	
3			S

(3) 137 PURGE DATAPATH

0000 1 :NOSHOW CONDITIONALS  
0000 3 :TITLE LIOSUB780 - LOADABLE I/O SUBROUTINES  
0000 5  
0000 9  
0000 13  
0000 17  
0000 21  
0000 22 .IDENT 'V04-000'  
0000 23  
0000 24  
0000 25 \*\*\*\*\*  
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0000 44 \*  
0000 45 \*  
0000 46 \*\*\*\*\*  
0000 47  
0000 48 ++  
0000 49  
0000 50 FACILITY:  
0000 51  
0000 52 EXECUTIVE, I/O CONTROL ROUTINES  
0000 53  
0000 54 ABSTRACT:  
0000 55  
0000 56 I/O SUBROUTINES WHICH CONTAIN PROCESSOR DEPENDENCIES.  
0000 57  
0000 58 AUTHOR:  
0000 59  
0000 60 N. KRONENBERG, JANUARY 12, 1979.  
0000 61  
0000 62 MODIFIED BY:  
0000 63  
0000 64 V03-012 KDM0096 Kathleen D. Morse 27-Mar-1984  
0000 65 Add memory CSR scanning to IOC\$PURGDATAP for MicroVAX I.  
0000 66 (ALL DMA MicroVAX I drivers should call this routine, just  
0000 67 before calling IOC\$REQCOM.)  
0000 68  
0000 69 V03-011 KDM0081 Kathleen D. Morse 13-Sep-1983  
0000 70 Create a version for Micro-VAX I.  
0000 71 :

## - LOADABLE I/O SUBROUTINES

N 2

16-SEP-1984 00:43:22 VAX/VMS Macro V04-00  
5-SEP-1984 04:10:05 [SYSLOA.SRC]LIOSUB.MAR;1Page 2  
(1)

\*\*

0000	72	V03-010	TCM0004	Trudy C. Matthews	4-Jan-1982
0000	73			Added 11/790-specific path to IOC\$PURGDATA.P.	
0000	74				
0000	75	V09	TCM0003	Trudy C. Matthews	9-Nov-1982
0000	76			Added a .TITLE statement for LIOSUB790.	
0000	77				
0000	78	V08	TCM0002	Trudy C. Mathews	29-Jul-1981
0000	79			Changed all '7ZZ's to '730's.	
0000	80				
0000	81	V07	TCM0001	Trudy C. Matthews	28-Feb-1980
0000	82			Changed IOC\$PURGDATA.P for NEBULA so that it logs	
0000	83			the Unibus Error Summary register itself when there	
0000	84			are Unibus errors reported.	
0000	85				
0000	86	V06	NPK0002	N. KRONENBERG	4-DEC-1979
0000	87			REPLACED IOC\$PURGDATA.P FOR NEBULA	
0000	88				
0000	89	V05	NPK0001	N. KRONENBERG	23-AUG-1979
0000	90			CORRECTED 11/750 CHECK FOR PURGE DONE.	
0000	91				
0000	92	V04	TCM0001	Trudy C. Matthews	3-Jul-1979
0000	93			Modified IOC\$PURGDATA.P for NEBULA.	
0000	94				
0000	95	--			

0000 97 :  
0000 98 : MACRO LIBRARY CALLS:  
0000 99 :  
0000 100 \$ADPDEF : Define ADP offsets  
0000 101 \$CRBDEF : Define CRB offsets  
0000 102 \$EMBETDEF : Define error types.  
0000 103 \$EMBUDEF : Define Unibus Error buffer.  
0000 104 \$IDBDEF : Define IDB offsets  
0000 105 \$PRDEF : Define IPR'S  
0000 106 \$UBADEF : Define UBA offsets  
0000 107 \$UBIDEF : Define UBI offsets  
0000 108 \$UCBDEF : Define UCB offsets  
0000 109 \$VECDEF : Define CRB/VEC offsets  
0000 110 :  
00000001 0000 112 C780\_LIKE = 1  
00000000 0000 113 C750\_LIKE = 0  
0000 115 :  
0000 120 :  
0000 125 :  
0000 130 :  
0000 135 :

```

0000 137      .SBTTL PURGE DATAPATH
0000 138 :+
0000 139 : IOC$PURGdatap - PURGE DATAPATH
0000 140 :
0000 141 : This routine purges the caller's buffered datapath, and clears any
0000 142 : datapath errors. if there was a datapath error, this fact is
0000 143 : returned to the caller.
0000 144 :
0000 145 : INPUTS:
0000 146 :
0000 147 :     R5 = UCB address
0000 148 :
0000 149 : OUTPUTS:
0000 150 :
0000 151 :     R0-R3 altered
0000 152 :     Other registers preserved
0000 153 :     R0 = low bit clear/set if transmission error/success
0000 154 :     R1 = DPR contents after purge (for register dump by caller)
0000 155 :     R2 = address of start of adapter map registers (for reg dump by caller)
0000 156 :     R3 = CRB address
0000 157 :-+
0000 158 :
0000 159 .PSECT WIONONPAGED
0000 160
0000 161 .ENABL LSB
0000 162
0000 163 IOC$PURGdatap:::
      PUSHR #^M<R4>          ; Save register
      MOVL UCB$L(CRB(R5),R3)   ; Get CRB address
      MOVL @CRBSL_INTD+VEC$L_ADP(R3),R2 ; Get start of adapter register space
      00CA 168
      00  EF 000A 169      EXTZV #VECSV_DATAPATH,-       ; Extract datapath #
      05  000C 170        #VECSS_DATAPATH,-       ; from CRB
      51  37 A3 000D 171      CRBSL_INTD+VEC$B_DATAPATH(R3),R1
      54  40 A241 DE 0010 172      MOVAL UBA$L_DPR(R2)[R1],R4 ; Get address of DPR
      64  01 1F 78 0015 173      ASHL #UBASV_DPR_BNE,#1,(R4) ; Purge datapath
      51  64 0019 174      MOVL (R4),RT           ; Get DPR contents
      08  51 1E E1 001C 175      BBC #UBASV_DPR_XMTER,R1,20$ ; Branch if no error
      64  01 1E 78 0020 176      ASHL #UBASV_DPR_XMTER,#1,(R4) ; Clear error in DPR
      50  D4 0024 177      CLRL R0                ; Set to return transfer error
      03  11 0026 178      BRB 30$               ; Join common code
      50  01 9A 0028 179 20$:    MOVZBL #1,R0           ; Set to return transfer success
      52  0800 C2 DE 0028 180 30$:    MOVAL UBASL_MAP(R2),R2 ; Return addr of 1st map register
      0030 181
      10  BA 0030 182      POPR #^M<R4>          ; Restore register
      05  0032 183      RSB                 ; Return
      0033 185
      0033 186
      0033 214
      0033 263
      0033 297
      0033 298
      0033 299
      0033 300      .DSHDL LSB
      .END

```

LIOSUB780  
Symbol table

- LOADABLE I/O SUBROUTINES

D 3

16-SEP-1984 00:43:22 VAX/VMS Macro V04-00  
5-SEP-1984 04:10:05 [SYSLOA.SRC]LIOSUB.MAR;1

Page 5  
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C750\_LIKE  
C780\_LIKE  
CPU\_TYPE  
CRBSL\_INTD  
IOC\$PURGDATA  
PRS\_SID\_TYP730  
PRS-SID-TYP750  
PRS-SID-TYP780  
PRS-SID-TYP790  
PRS-SID-TYPUV1  
UBASL\_DPR  
UBASL\_MAP  
UBASV\_DPR\_BNE  
UBASV\_DPR\_XMTER  
UCBSL\_CRB  
VECSB\_DATAPATH  
VECSSL\_AD  
VECSS\_DATAPATH  
VECSV\_DATAPATH

= 00000000  
= 00000001  
= 00000001  
= 00000024  
00000000 RG 02  
= 00000003  
= 00000002  
= 00000001  
= 00000004  
= 00000007  
= 00000040  
= 00000800  
= 0000001F  
= 0000001E  
= 00000024  
= 00000013  
= 00000014  
= 00000005  
= 00000000

+-----+  
! Psect synopsis !  
+-----+

PSECT name	Allocation	PSECT No.	Attributes	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
ABS	00000000	( 0.) 00 ( 0.)	NOPIC USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
\$ABSS	00000000	( 0.) 01 ( 1.)	NOPIC USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE
WIONONPAGED	00000033	( 51.) 02 ( 2.)	NOPIC USR	CON	REL	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE

+-----+  
! Performance indicators !  
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.06	00:00:01.90
Command processing	106	00:00:00.51	00:00:04.39
Pass 1	267	00:00:04.98	00:00:17.63
Symbol table sort	0	00:00:00.78	00:00:03.98
Pass 2	42	00:00:01.00	00:00:04.20
Symbol table output	4	00:00:00.03	00:00:00.03
Psect synopsis output	2	00:00:00.01	00:00:00.01
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	453	00:00:07.39	00:00:32.16

The working set limit was 1350 pages.

44289 bytes (87 pages) of virtual memory were used to buffer the intermediate code.

There were 50 pages of symbol table space allocated to hold 773 non-local and 2 local symbols.

304 source lines were read in Pass 1, producing 13 object records in Pass 2.

17 pages of virtual memory were used to define 16 macros.

LIO  
V04

+-----+  
! Macro library statistics !  
+-----+

Macro library name

-----  
\$255\$DUA28:[SYS.OBJ]LIB.MLB;1  
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2  
TOTALS (all libraries)

Macros defined

-----  
9  
4  
13

864 GETS were required to define 13 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LISS:LIOSUB780/OBJ=OBJ\$:LIOSUB780 MSRC\$:(CPUSW780)UPDATE=(ENH\$:(CPUSW780)+MSRC\$:LIOSUB)UPDATE=(ENH\$:LIOSUB)+EXECMLS/LIB

0397 AH-BT13A-SE  
VAX/VMS V4.0

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